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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/540,147      | 06/21/2005  | Dominique Lo Hine Tong | PF030010            | 3358             |

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| EXAMINER |
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LEE, BENNY T

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| ART UNIT | PAPER NUMBER |
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2817

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 01/09/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/540,147

Applicant(s)

LO HINE TONG ET AL.

Examiner

Benny Lee

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5; 3, 4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>21 June 2005</u> .  | 6) <input type="checkbox"/> Other: _____                          |

The specification is replete with grammatical errors too numerous to mention specifically. The specification should be revised carefully. Examples of such errors are: Page 1, line 11, "Mg~~raw~~Hill" should be --McGraw Hill--. Page 1, line 22, "realisation" should be rewritten as --realization--. Page 1, lines 24, 26 and page 2, line 7, "coaxiality" should be rewritten for an appropriate characterization. Page 2, line 11, "commercialised" should be rewritten as --commercialized--.

The disclosure is objected to because of the following informalities: Page 2, line 11, note that it is unclear whether "ROHACELL HF" is considered a registered trademark? If such is the case, then it should be so designated along with the generic terminology of such a trademark. Page 3, line 19, note that "3A to 3D" should be rewritten as --3A, 3B, 3C and 3D-- for consistency with the labeling in the corresponding drawing figure; lines 22, 23, note that the recitation of "the conformation of the foam bar ..." is vague in meaning and needs clarification; line 25, similarly, note that "... by projection or by brush" is vague in meaning and needs clarification. Appropriate correction is required.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "thermoforming" process (i.e. claim 3) and the metallization "by projection or by brush" (i.e. claim 4), respectively must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing

Art Unit: 2817

should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim 4 is rejected under 35 USC 112, first paragraph, because the specification does not enable any person skilled in the art to which it pertains, or with which it most nearly connected, to make the invention.

Regarding claim 4, the specification lacks an adequate written description with respect to the metallization of the surface “by projection or by brush”, such that it does not enable any person skilled in the art to make this aspect of applicants’ invention. In other words, the specification fails to provide any particular description of what constitutes metallization “by projection or by brush”. Accordingly, such a lack of guidance in the specification regarding this aspect of applicants’ invention would have prevented (i.e. not enabled) one skilled in the art from going ahead and making this aspect of the invention, as intended by applicants’. Clarification is needed.

Art Unit: 2817

Claims 1, 2, 5; 3, 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 3, note that it is unclear if the recitation of “a profile according to a periodic or constant function” can be properly associated with the “tube” having a “constant ... diameter”. In other words, the constant diameter tube would appear to preclude any periodic profile associated therewith. Clarification is needed. Note that for the “inner bar”, it is unclear how the “profile following a constant or periodic function” would relate to the earlier recitation of such a feature (i.e. same as, different from, etc). Clarification is needed. Note that reference to “the largest diameter of the bar” is vague in meaning since so “diameter” has been strictly associated or defined for the “bar”. Clarification is needed. Note that it is unclear what scope of coverage is intended to be encompassed by the phrase “noticeably equal”. Clarification is needed.

In claim 4, note that it is unclear which “surface” of which feature (i.e. tube or bar) is intended by the recitation of “the surface”. Clarification is needed.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

Art Unit: 2817

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2; 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Capen et al in view of Schafer.

Capen et al discloses a coaxial structure for a microwave filter comprising: two pieces or “bars” of dielectric (i.e. polymeric) material (i.e. half cylinders 2) having grooves or cavities (7) disposed on a surface thereof and arranged in a periodic or “crenellation” pattern. As evident from Fig. 3, the grooves or cavities are then metallized by a conductive layer to form a plurality of equally spaced hollow capacitive units (8). When the half cylinder “bars” are assembled, the resultant structure is a tube of dielectric material having “bars” of metallized hollow capacitive units (8). Furthermore, the outer surface of the assembled tube is also metallized by a conductive layer (10), such as to form in conjunction with the hollow capacitive units (8), a microwave filter. As is evident from Figs. 2 & 3, the metallized cavities have a largest diameter “noticeably equal” to the tube diameter. However, Capen et al does not explicitly disclose that the dielectric material is a foam material (i.e. claims 1, 3) and that a thermoforming process is used to form the foam dielectric and metallic layers (i.e. claim 3).

Schaefer discloses a coaxial microwave filter having an electrical configuration of the type analogous to that in Capen et al. In particular, as described at column 3, lines 66, 67, a polymeric foam material (i.e. TEFLON) is preferable for use in high temperature forming processes (e.g. thermoforming processes).

Accordingly, it would have been obvious in view of the references, taken as a whole, to have realized the polymeric dielectric material in Capen et al with the TEFLON foam material, such as taught by Schaefer. Such a modification would have been considered an obvious substitution of art recognized equivalent dielectric materials in structures from the same field of endeavor (i.e. the coaxial structures in each reference form coaxial microwave filters), and as such would not have altered the function of such a resultant coaxial microwave filter, thereby suggesting the obviousness of such a modification. Additionally, it should be noted that in view of the generic nature of the polymeric dielectric material in Capen et al, this would have suggested that any art recognized equivalent dielectric material (i.e. such as TEFLON foam) would have been usable therewith. Furthermore, note that as an obvious consequence of using TEFLON foam, the resultant combination would have been suitable for being formed by a “thermoforming” process, such as suggested by Schaefer (i.e. a “thermoforming” process is considered a “high temperature” application), thereby suggesting the obviousness of such a modification.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the above rejection as applied to claim 1 above, and further in view of Thomas.

The above combination discloses the claimed invention except for the hollow capacitive elements or “crennelations” having different dimensions, such as claimed.

Thomas discloses a coaxial microwave filter of the same electrical configuration as in the above obviousness combination. In particular, as suggested at column 3, lines 1-3, the relative size and spacing of various filter sections can be individually determined based on desired filter characteristics. Accordingly, Thomas suggests that physical parameters of the filter (e.g. spacing

Art Unit: 2817

between filter components) can be selected and designed dependent on desired operating characteristics.


Accordingly, it would have been obvious to have further modified the filter configuration of the combination, such as to have realized the desired filter characteristic, such as suggested by Thomas. Therefore, as an obvious consequence of such individual filter component design (e.g. individual spacing of filter components), the resultant filter components need not be uniform, but may be designed in accordance with the suggestions of Thomas.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kaunzinger discloses a coaxial microwave filter of the same electrical configuration as in the above applied prior art references..

Any inquiry concerning this communication should be directed to Benny Lee at telephone number 571 272 1764.

B. Lee

  
BENNY T. LEE  
PRIMARY EXAMINER  
ART UNIT 2817